

# Oversight News

Newsletter of the Commonwealth's environmental oversight of the Paducah Gaseous Diffusion Plant

## Accelerated D & D in Various Stages of Completion

In 2004 Congress set aside money to accelerate the decontamination and demolition (D&D) process at the PGDP. The initiative targeted five structures that were no longer in service but still many years from being torn down. The C-603 Nitrogen Facilities and C-410-A Hydrogen Holder, originally scheduled for demolition in 2011 and 2013 respectively, were razed years ahead of schedule when they were brought down earlier this year.

The C-402 Lime House, C-405 Incinerator, and the C-746-A West End Smelter could be completely demolished by the end of this year. In a move to accelerate the process, DOE opted to split the remaining three buildings and



Contents of the C-746-A West End Smelter, a building slated for D&D by DOE later this year. Photo courtesy of Jim Ethridge, DOE.

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## New Permitting Update

The Hazardous Waste Management Permit for the Paducah Gaseous Diffusion Plant has been modified.

A permit change was required when the U.S. Department of Energy (DOE) awarded a small business contract to Paducah Remediation Services LLC (PRS) on Dec. 27. PRS is responsible for environmental remediation and waste management at the PGDP and took over these responsibilities from Bechtel Jacobs LLC on April 23, 2006. The contract will run through Sept. 30, 2009.

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## NOTICE

The Division of Waste Management will be publishing the 1999-2003 Environmental Oversight Status Report this year. Due to its great volume, the report will be available primarily in digital form. Hard copies will be mailed only upon request. The report can be accessed on the Division of Waste Management's Web site, <http://www.waste.ky.gov/> in Acrobat .pdf format or requested on CD.

To request a hard copy of the 1999-2003 Status Report, you may:

### Write

April Webb, Branch Manager  
Hazardous Waste Branch  
14 Reilly Road

### E-mail

[april.webb@ky.gov](mailto:april.webb@ky.gov)  
or  
[nicole.burpo@ky.gov](mailto:nicole.burpo@ky.gov)

Please put **STATUS REPORT** in the subject line.

By **Nicole Burpo and Judy Dickerson**, KY Division of Waste Management, Hazardous Waste Branch

## Scrap Metal Update

From Oct. 25 of last year to April 11, 2006, more than 2,341 tons of scrap metal from the C-746-C (C-yard) was segregated, containerized and transported to Envirocare of Utah, now Energy Solutions, Inc., for disposal. During the same period, a total of 1,677 tons of scrap metal from the P-yard was segregated, containerized and transported to Energy Solutions for disposal. By Feb. 15, 2006, both the C- and P-yards had been completed.

During the C-746-D (D-yard) scrap metal removal process, completed on Feb. 28, 2006, nearly 3,617 tons of classified scrap was segregated, containerized and shipped for disposal at the Nevada Test Site, a federal disposal facility. As a cost-saving activity, several large pieces of D-yard scrap (shells) were declassified, reduced in size, packaged and shipped to Energy Solutions for disposal. The D-yard shells, totaling over 320 tons, were removed from the site on March 15, 2006.

A cost- and time-saving decision was made concerning the disposal process. Wooden pallets collected from around the site were added as dunnage (used to fill void spaces) in containers being loaded with northwest scrap yard metal.



**Contract employee for DOE resizing scrap metal for a better fit when packed.** Photo courtesy of Jim Ethridge, DOE.

The pallets were the same type of low-level waste as the metals from the northwest scrap yard. This process is ongoing. By mid-April, field work was being performed in both the C-746-E and C-746-E1 yards.

By **Leo Williamson**, Ky. Division of Waste Management, Hazardous Waste Branch.

## C-410 / 420 Building Infrastructure D&D Update

**D**econtamination and decommissioning (D&D) of the C-410 Building Complex, which began in 2003, is continuing slowly. Limited funding and the complexity of dismantling a 50-year-old structure once used to produce UF<sub>6</sub> – the feed material used in the uranium enrichment process – are primary factors affecting the speed at which work can be performed. Concerns for worker safety also make it necessary to proceed cautiously.

The C-410 Complex is composed of several adjoining structures that include the C-410/C-420 feed plant and the C-411 facility. Its combined floor space exceeds 133,100 square feet. This area has been divided into 65 separate zones in order to facilitate the D&D process.

A considerable amount of work has been performed to date at the complex. Work inside zones 64 (the C-411 facility) and 21 has been completed. This has allowed zone 21 to be used as an entry and exit point for employees performing work inside the buildings. Other activities now complete include the removal and disposal of a large tank farm and the cleaning and subsequent transfer of over 60 fluorine cells to a recycling and refurbishing company out of Canada, called ToxCo Corp. Toxco refurbishes the cells to use for fluorine and hydrogen gas production outside the realm of uranium enrichment. Large quantities of loose trash have also been removed from inside the buildings. This process continues inside zones 25 and 31.

Work under way but not yet completed includes the removal of the electrical distribution equipment system

from many of the same zones that held the fluorine cells, the refurbishing and recertification of several vintage cranes and the stabilization of chipping paint associated with some of the outdoor discharge towers. The electrical bus work and switches are to be removed, surveyed and later shipped to ToxCo for eventual reuse. This work is currently being performed within zones 42 and 43. Up to five cranes are scheduled to be recertified for use during D&D operations. One is now ready for load testing and certification. Fixative is being applied to the outside towers in order to prevent radioactively contaminated paint from falling off when the towers are eventually removed. The fixative application process is about 80 percent complete.

Work inside the complex has been temporarily suspended pending the outcome of an investigation to determine how workers can avoid accidentally breaking small diameter pipes that may contain UF<sub>6</sub>. The investigation was undertaken following a small UF<sub>6</sub> release that occurred indoors when a worker pulling an air line through an overhead area accidentally snapped a ¾ inch line containing UF<sub>6</sub>. All such lines are being color coded for visibility and procedures are being reviewed and modified as necessary to ensure that similar releases do not occur in the future. Once work resumes, an emphasis will continue to be placed upon completing the removal of bus work and switches and applying fixative to the outdoor towers.

By **Todd Mullins**, Ky. Division of Waste Management, Hazardous Waste Branch.



**D&D work on the C-410/420 Feed Plant complex has begun and is scheduled for completion in 2012. There are nine facilities with 200,000 sq. ft. combined.**  
*Photo courtesy of Jim Ethridge, DOE.*



## Rubble Piles Revisited

**T**hirty-seven rubble piles were slated for investigation in 1997. They consisted mainly of broken pieces of concrete, culverts, rebar and assorted metal pipes and beams from the Paducah Gaseous Diffusion Plant (PGDP) and which have been scattered about the Western Kentucky and Ballard County Wildlife Management Areas (WMA). These rubble piles were grouped together and became Solid Waste Management Units (SWMUs). Over time, all 37 SWMUs were documented and surveyed for radiation contamination and sampled if certain specifications were met. If contamination was detected that exceeded two times background by the laboratory results, steps were taken to have the rubble pile removed from the general public area and taken back inside the PGDP for proper disposal.

A decision by Ky. Division of Waste Management to revisit rubble piles in and around the PGDP began June 2005 and is an ongoing project. A thorough search of rubble piles has been conducted, starting near the Ohio River and working south through all of the Western Kentucky WMA roads and trails that were accessible to the public. The Ballard County WMA was also covered by accessing roads and trails. Each time a pile was found, it was given a GPS location, digitally photographed, measured and described in detail in a field logbook and scanned for above ground radiation using the following meters: Ludlum Model 3 Survey Meter/ Ludlum Model 44-9 Alpha-Beta-Gamma Pancake G-M Probe.

Investigations found two piles not previously documented to be contaminated. Their location was reported to DOE, and the piles were promptly roped off with proper signage posted in the area. One pile has since been removed from public access and taken inside the plant for proper disposal.

This investigation documented and surveyed 47 rubble piles, in all nine were from the WAG 17 investigation and the remaining 38 were newly documented and surveyed with two of the piles needing further action because of possible radiation contamination.

By **Vicki Voisard**, Ky. Division of Waste Management, Hazardous Waste Branch.



**Bill Clark** (Ky. Division of Waste Management, Hazardous Waste Branch,) shown here scanning a rubble pile for radiation contamination, has been involved characterizing rubble piles in and around the PGDP. Photo by **Vicki Voisard**, Ky. Division of Waste Management, Hazardous Waste Branch.

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To request additional copies of this Oversight Newsletter or be placed on the mailing list call or e-mail:  
Nicole Burpo, Division of Waste Management, (502) 564-6716 Ext. 244 or [nicole.burpo@ky.gov](mailto:nicole.burpo@ky.gov).

# How does the PGDP Section fit into State Government?

**T**he **Paducah Gaseous Diffusion Plant (PGDP) Section** provides oversight for environmental cleanup and waste operations at the PGDP while also evaluating the general condition of the plant's environment. The PGDP Section is in the Hazardous Waste Branch.

The **Hazardous Waste Branch** oversees handling of hazardous waste "from cradle to grave." This involves the promotion of hazardous waste minimization, hazardous waste management, and remediation of hazardous waste releases through permitting, corrective action, registration and reporting requirements. The Hazardous Waste Branch is in the Division of Waste Management.

The **Division of Waste Management** has the mission of protecting human health and the environment by minimizing adverse impacts on all citizens of the Commonwealth through

the development and implementation of fair, equitable and effective waste management programs. The Division of Waste Management is part of the Department for Environmental Protection.

The **Department for Environmental Protection** protects and enhances Kentucky's environment. The department sets clear priorities and works with Kentucky's citizens to keep Kentucky one of the most remarkable states in the nation. The Department for Environmental Protection is an agency within the Environmental and Public Protection Cabinet.

The **Environmental and Public Protection Cabinet** strives to improve the quality of life for all Kentuckians and to enhance Kentucky's economy while protecting Kentucky's environment, workers and the general public.

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## New Permitting

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Another action that required a permit change was the closure of DOE Material Storage Areas (DMSAs). In October 2003, DOE and the Cabinet entered into an Agreed Order to resolve hazardous waste issues at the plant. DOE began characterization of the DMSAs in 2001 and has discovered hazardous wastes in many of the storage areas. As described DMSA closure plans, DOE has promptly removed the hazardous wastes, upon discovery, to permitted storage areas at the plant. DOE is also proceeding with proper disposition of the wastes. Examples of the hazardous wastes discovered and removed from the storage areas are: lightbulbs, fuses, fluorescent light starters, capacitors, circuit boards, waste oil and kerosene. DOE and the Cabinet have not found evidence of a release of hazardous waste or hazardous waste constituents in any of the storage areas. Final characterization of all DMSAs is scheduled for 2009, followed by completion of any remaining closure activities.

A fact sheet was prepared in response to the permit modification. A fact sheet informs the interested citizens and governmental agencies of these changes, as well as notify the public. Kentucky Administrative Regulations require that the public be given a 45-day comment period for each change to the Hazardous Waste Management Permit for PGDP.

By **Nicole Burpo and Mike Guffey**, KY Division of Waste Management, Hazardous Waste Branch.

## Accelerated D&D

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submit individual Remedial Action Work Plans (RAWP). The RAWP outlines the demolition process and is the final regulatory requirement before demolition can begin. The RAWP for the C-402 Lime House was sent to regulators on Feb. 7 and approved on March 3. Initial D&D activities, such as removing building contents, began on March 22. Demolition is expected to be wrapped up by December 2006. The RAWP for the C-405 Incinerator and the C-746-A West End Smelter had not been submitted to regulators as of July 1, 2006. Once the plans are received and approved, demolition activities can simultaneously occur in all three structures. If all three structures are complete by the end of 2006, work will have been accelerated by at least three years.

By **Brian Begley**, Ky. Division of Waste Management, Hazardous Waste Branch



## Environmental and Public Protection Cabinet

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Division of Waste Management

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[www.waste.ky.gov/programs/hw/PGDP+Section.htm](http://www.waste.ky.gov/programs/hw/PGDP+Section.htm)

**Kentucky Environmental Oversight News** is published quarterly by the Kentucky Department for Environmental Protection's Division of Waste Management. It features information regarding environmental cleanup activities at the Paducah Gaseous Diffusion Plant site and related topics.

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Hearing or speech impaired people can contact the agency by using the Kentucky Relay Service, a toll-free telecommunications device for the deaf (TDD). For voice to TDD, call 1-800-648-6057. TDD to voice: 1-800-646-6056.

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